SHARP

ERGÄNZUNG SERVICE-ANLEITUNG
SUPPLEMENT SERVICE MANUAL

S90159VMH78SM

VC-MH771SM(S/SN)
VC-MH770SM(S)

VHS VIDEO CASSETTE RECORDER

MODELS
MODELLE

VC-MH78SM(SN)
VC-MH78GM(S)
VC-MH77SM(SS)
VC-MH771SM(S/SN)
VC-MH770SM(S)

VC-MH78SM(SN)
VC-MH78GM(S)
VC-MH77SM(S)

Im Interesse der Benutzer-Sicherheit (gemäß den Scherheitsvorschriften in eingen Lädern) solite dieses Gerät wieder auf seinen ursprünglichen Zustand eingestellt und die vorgeschriebenen Teile verwendet wereden.

Diese Wartungsanleitung behandelt nur diejenigen Aspekte, die sich vom VC-FH500GM(S). Weiterge hende Informationen, die in diesem indies Nachtrag nicht behandelt werden, finden Siein der Wartungsan leitungfür das Gerät VC-FH500GM(S).

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.

This service manual covers only those items that differ from the VC-FH500GM(S). For further information on items not covered by this supplement refer to the Service Manual for VC-FH500GM(S).

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INHALT

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SHARP CORPORATION

PRECAUTIONS IN PART REPLACEMENT

When servicing the unit with power on, be careful of the section outlined in white.
This is the primary power circuit which is live.
When checking the solder side in the tape travel mode, make sure that the tape has been loaded and then turn over the PWB with due care to the primary power circuit. Make readjustment, if needed after replacement of part, with the mechanism and its PWB in position in the main frame.

(1) Start and end sensors: Q701 and Q702
Insert the sensor's projection deep into the upper hole of the holder. Referring to the PWB, fix the sensors tight enough.
When replacing the mechanism on the PWB care should be taken that the sensors locate into the mechanism holder.

(2) Photocoupler: IC901
Refer to the symbol on the PWB and the anode marking of the part.

(3) Cam switches A and B: D708 and D705.
Adjust the notch of the part to the white marker of the symbol on the PWB. The part must be flat to the PWB.

(4) Take-up and supply sensors: D711 and D712.
Be careful not to confuse the setting direction of parts in reference to the symbols on the PWB. The part must be flat to the PWB.

VORSICHTSMASSNAHMEN BEIM AUSWECHSELN VON TEILEN

Bei Wartungsarbeiten am Gerät mit eingeschalteter Stomversorgung ist besonders auf den weiß markierten Abschnitt zu achten.

Es handelt sich um den Primärstromkeis, der spannungsführend ist.
Beim Überprüfen der Lötseite im Bandlaufmodus muß zunächst sichergestellt werden, daß das Band eingezogen wurde. Dann die Platine unter entsprechender Beachtung des Primärstromkreises umdrehen.
Eine ggf. erforderliche Neueinstellung nach dem Auswechseln von Teilen durchführen während sich Bandlaufwerk und Platine im Hauptrahmen befinden.

(1) Start und Endersoren: Q701 and Q702
Das hervorstehende Teil des Sensors tief in die obere Öffnung des Halters stecken. Die Sensoren in Bezug auf die Platine ausreichend befestigen. Beim Einbau der Mechanik auf der Platine ist besonders darauf zu achten, daß die Sensoren in den mechanischen Halterungen sitzen.

(2) FotoKoppler: IC901
Beachten Sie das Symbol auf der Platine und die Anodenkennzeichnung des Ersatzteils.

(3) Nockenschalter A und B: D708 und D705.
Die Kerbe des Teils auf die weiße Markierung des Symbols auf der Platine ausrichten. Die Teile müssen plan auf der Platine sitzen.

(4) Aufwickel- und Abwickelsensoren: D711 und D712.
Darauf achten, daß die Ausrichtung der Teile in Bezug auf die Symbole auf der Platine nicht vertauscht wird. Die Teile müssen plan auf der Platine sitzen.

VC-MH78SM ETC 1-4 2 31/8/01, 2:42 pm

SPECIFICATIONS

1. SPECIFICATIONS

Format:	VHS PAL standard
Video recording system:	Four rotary heads, helical scan system
Video signal:	PAL/SECAM colour and B/G signals, 625 lines
Recording/playing time:	240 min max. with SHARP E-240 tape (PAL SP)
	480 min max. with SHARP E-240 Tape (PAL LP)
	720 min max. with SHARP E-240 Tape (PAL EP)
	160 min max. with SHARP T-160 Tape (NTSC SP Playback)
	320 min max. with SHARP T-160 Tape (NTSC LP Playback)
	480 min max. with SHARP T-160 Tape (NTSC EP Playback)
Tape width:	12.7mm
Tape speed:	23.39 mm/s (PAL SP)
	11.70 mm/s (PAL LP)
	7.8 mm/s (RP) (EP)
	33.35 mm/s (NTSC SP)
	16.67 mm/s (NTSC LP)
	11.12 mm/s (NTSC EP)
Antenna:	75 ohm unbalanced
Receiving channel:	VHF Channel E2-S41
	UHF Channel E21-E69
RF converter output signal:	UHF Channel E21-E69
	(preset to CH E36)
Power requirement:	AC230V, 50Hz
Power consumption:	Approx. 18W
Standby	5 by 2.5W approx
Operating temperature:	5°C to 40°C
Storage temperature:	–20°C to 55°C
Weight:	Approx. 4 kg
Dimensions:	360 mm (W) x 281 mm (D) x 92 mm(H)

NOT 0N MODELS 711SM 770SM

NOT 0N MODELS 711SM 770SM

VIDEO	
Input:	1.0 Vp-p, 75 ohm
Output:	1.0 Vp-p, 75 ohm
S/N ratio:	45 dB
Horizontal resolution:	250 lines
AUDIO	0 dBs = 0.775 Vrms
Input:	Line1; –3.8dBs, 10k ohm
	Line2; –3.8dBs, 10k ohm
	Line3; –3.8dBs, 47k ohm
Output:	Line1; –3.8dBs, 1k ohm
	Line2; –3.8dBs, 1k ohm
Rear RCA:	3.8dB; –3.8dBs, 1k ohm
S/N ratio:	46 dB
Frequency responce:	80 Hz ~ 10 kHz (PAL SP),80 Hz ~ 5 kHz (PAL LP)
	80Hz ~ 3 kHz (PAL EP)
Hi-Fi Dynamic Range:	85dB TYP
Hi-Fi Wow and Flutter:	0.005%
Hi-Fi Frequency Responce:	20 Hz ~ 20 k Hz
Hi-Fi Distortion:	0.5% max.
Hi-Fi Crosstalk:	60 dB min.
Accessories included:	75 ohm coaxial cable
	Operation manual
	Infrared remote control
	Battery (2pcs.)

As part of our policy of continuous improvement, we reserve the right to alter design and specifications without notice.

Note:
The antenna must correspond to the new standard DIN 45325 (IEC 169 - 2) for combined UHF/VHF antenna with 75 ohm connector.

1. TECHNISCHE DATEN

Format:	VHS, PAL Norm
Video-Aufzeichnungssystem:	Schrägspuraufzeichnung mit vier rotierenden Köpfen
Videosignale:	PAL/SECAM-Farb-und B/G-weißsignale, 625 Zeilen
Aufzeichnungs-/:	240 Minuten Max., mit SHARP E-240-Band (PAL-SP)
	480 Minuten Max., mit SHARP E-240-Band (PAL-LP)
	720 Minuten Max., mit SHARP T-(PAL EP)
	160 Minuten Max., mit SHARP T-160-Band (NTSC-SP-Wiedergabe)
	320 Minuten Max., mit SHARP T-160-Band (NTSC-LP-Wiedergabe)
	480 Minuten Max., mit SHARP T-160-Band (NTSC-EP-Wiedergabe)
Wiedergabezeit Bandbreite:	12,7 mm
Bandgeschwinddigkeit:	23,39 mm/s (PAL-SP)
	11,70 mm/s (PAL-LP)
	7.8 mm/s (RP) (EP)
	33,35 mm/s (NTSC SP)
	16,67 mm/s (NTSC LP)
	11,12 mm/s (NTSC EP)
Antenne:	75 Ohm unsymmetrisch
Empfangskanäle:	VHF-Kanäle E2-S41
	UHF-Kanäle E21-E69
Ausgangssignal HF-Wandler:	UHF-Kanäle E21-E69
	(voreingestellt auf Kanäl E36)
Stromversorgang:	Wechselstrom 230V, 50Hz
Leistungsaufnahme:	Ca. 18 W
Bereitschafts:	Ca. 5 by 2.5W ungefähr
Betriebstemperatur:	5° bis 40°C
Legerungs temperatur:	–20° bis 55°C
Gewicht:	Ca. 4kg
Abmessungen:	360 mm (B) x 281 mm(T) x 92 mm(H)

NOT 0N MODELL 711SM 770SM

NOT 0N MODELS 711SM 770SM

VIDEO	
Eingang:	1,0 Vs-s, 75 Ohm
Ausgang:	1,0 Vs-s, 75 Ohm
Signal/Geräusch Verhältnis:	45 dB
Horizontale Auflösung:	250 Linie
AUDIO	0 dB = 0,775 Veff
Eingang:	Direkteingang 1 : –3,8 dB/10k Ohm
	Direkteingang2 : –3.8 dBs/10k Ohm
	Direkteingang3 : –3.8 dBs/47k Ohm
Ausgang:	Direktausgang 1 : –3,8 dB/1k Ohm
	Direktausgang 2 : –3.8 dBs/1k Ohm
Hinterer Teil RCA:	3.8dB; –3.8dBs, 1k ohm
Signal/Rausch Abstand:	46 dB
Frequenzwiedergabe:	80 Hz - 10 kHz (PAL SP),80 Hz - 5 kHz (PAL LP)
	80Hz ~ 3 kHz (PAL EP)
Hi-Fi Dynamikbereich:	TYP 85dB
Hi-Fi-Tonhöhenschwankungen:	0,005%
Hi-Fi-Frequenzwiedergabe:	20 Hz - 20 k Hz
Hi-Fi-Verzerrung:	max. 0,5%
Hi-Fi-Übersprechen:	min. 60 dB
Mitgeliefertes Zubehör:	75 Ohm-Koaxialkabel
	Bedienungsanleitung
	Infrarot-Fernbedienung
	Batterie (2 Stücks)

*Im Sinne der ständigen Verbesserung behalten wir uns das Recht vor, die äußere Aufmachung und technischen Daten ohne Vorankündigung zu ändern.

Hinweis:
Die Antenne muß der neuen DIN-Norm 45325 (IEC169-2) für VHF-UHF-Kombiantennen mit 75 Ohm-Anschluß entsprechen.

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ROM-TABELLE

	MODEL MODELLE	VC-MH78GM(S)	VC-MH77SM(SS)	VC-MH771SM(S)	VC-MH771SM(SN)	VC-MH770SM(S)	VC-MH78SM(SN)
blank	blank	------	------	-----	-----	----	-----
EP n **	NTSC Luminance level	0	0	0	0	0	0
EP n **	NTSC Chrominance level	7	7	7	7	7	7
SP n **	NTSC Luminance level	0	0	0	0	0	0
SP n **	NTSC Chrominance level	7	7	7	7	7	7
LP p **	PAL Luminance level	2	2	2	2	2	2
LP p **	PAL Chrominance level	2	2	2	2	2	2
blank	blank	------	------	-----	-----	----	----
SP p **	PAL Luminance level	4	4	4	4	4	4
SP p **	PAL Chrominance level	4	4	4	4	4	4
"0"	fixed	0	0	0	0	0	0
JP39	A.DUB	0	0	0	0	0	0
JP38	NOT SLOW ATR	0	0	0	0	0	0
JP37	SQPB	1	0	0	0	0	1
JP36	NTSCPB	1	0	0	0	0	1
JP35	NTSC SKEW	0	0	0	0	0	0
JP34	HEAD2	0	0	0	0	0	0
JP33	HEAD1	1	1	1	1	1	1
JP32	HEAD0	0	0	0	0	0	0
JP31	GAMMA correction	0	0	0	0	0	0
JP30	L/P-5min	0	0	0	0	0	0
JP29	84 Channel	1	1	1	1	1	1
JP28	R/C CODE1	0	0	0	0	0	0
JP27	DNR	0	0	0	0	0	0
JP26	POST CODE	0	0	0	0	0	0
JP25	SAT CTL	0	0	0	0	0	0
JP24	16 X 9 wide	0	0	0	0	0	0
JP23	Hi-Fi	1	1	1	1	1	1
JP22	SORT/CLOCK	1	0	0	0	0	1
JP21	DECODER	1	1	1	1	1	1
JP20	SURROUND	0	0	0	0	0	0
JP19	IGR	1	1	1	1	1	1
JP18	NICAM	0	1	1	1	0	1
JP17	G-CODE1	0	0	0	0	0	0
JP16	G-CODE0	1	0	0	0	0	1
JP15	OEM	1	1	1	1	1	1
JP14	LP mode	0	0	0	0	0	0
JP13	F-AV	1	1	1	1	1	1
JP12	2 SCART	1	1	1	1	1	1
JP11	NO REF out	0	0	0	0	0	0
JP10	TUNER2	0	0	0	0	0	0
JP9	TUNER1	0	0	0	0	0	0
JP8	TUNER0	0	0	0	0	0	0
JP7	SYSTEM1	0	0	0	0	0	0
JP6	SYSTEM0	0	0	0	0	0	0
JP5	X 380 FF/REW	1	0	0	0	0	1
JP4	LOW POWER	0	0	0	0	0	0
JP3	N/A	0	0	0	0	0	0
JP2	VPS/PDC	1	0	0	0	0	1
JP1	COLOUR1	0	0	0	0	0	0
JP0	COLOUR0	1	1	1	1	1	1
	DISPLAY IN HEXADECIMAL NOTATION	520B 9E02 23	100B CA02 20	100B CA02 20	100B CA02 20	100B 8A02 20	520B DE02 23

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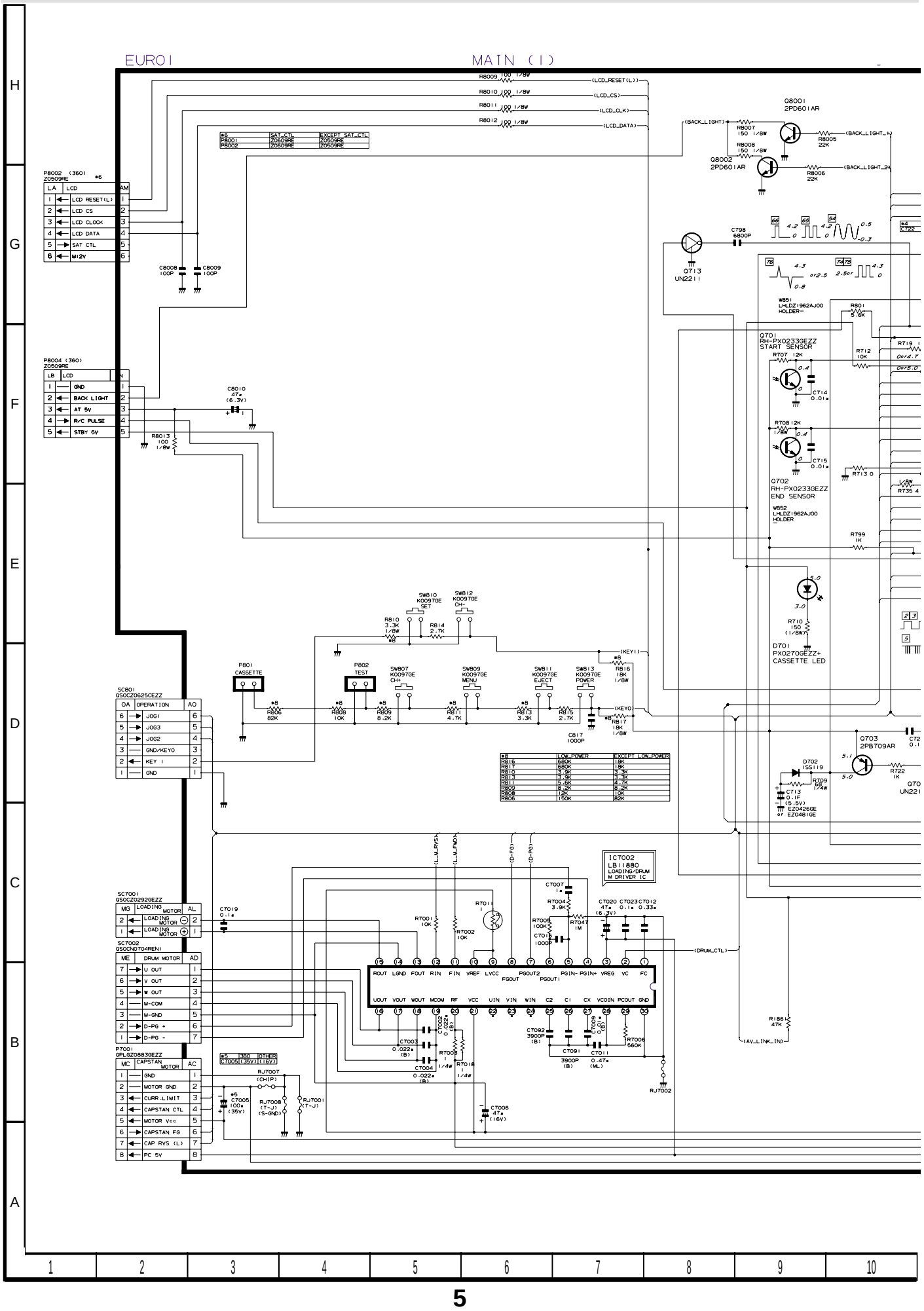
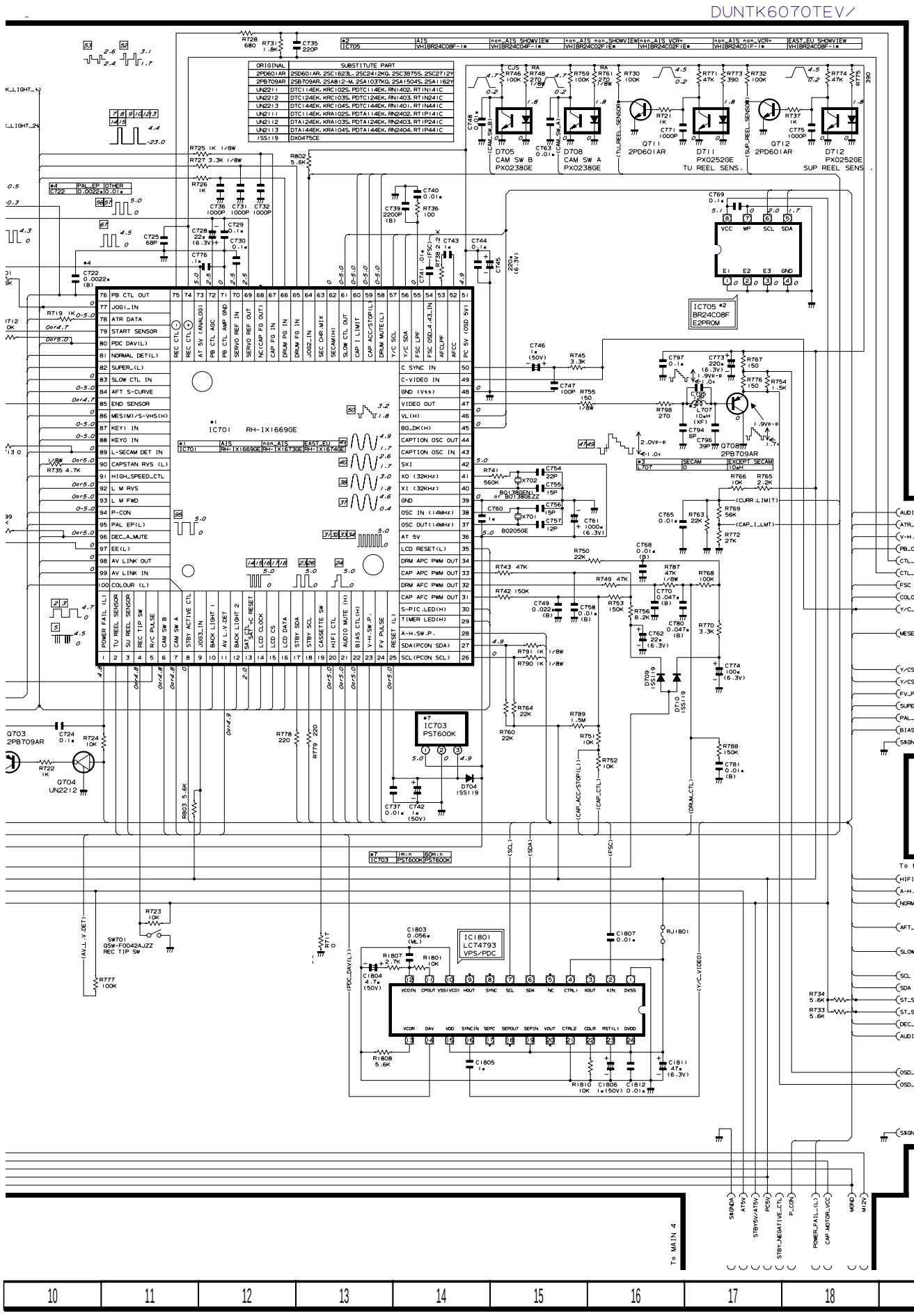
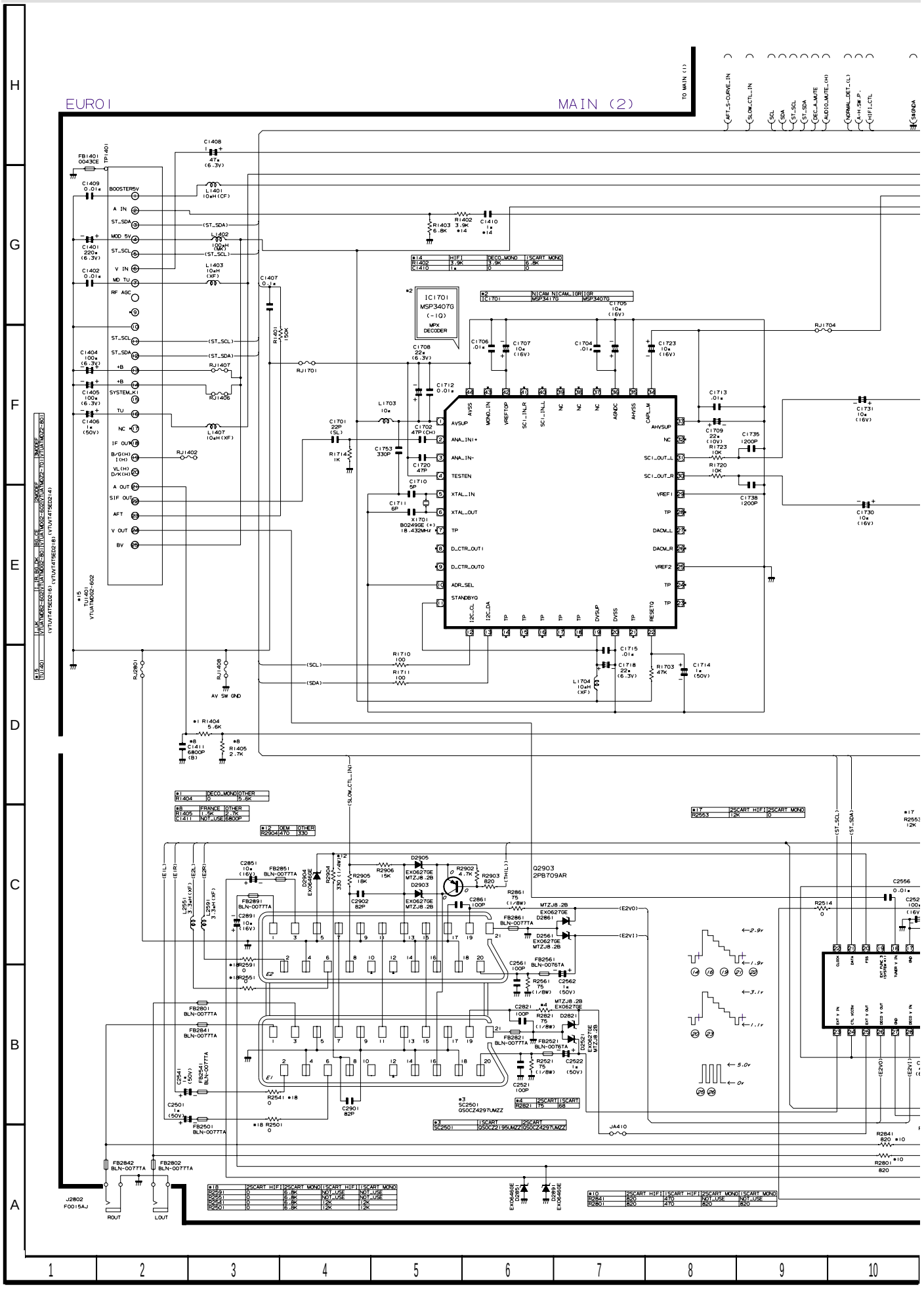
MAIN CIRCUIT (1) /HAUPTSCHALTUNG (1)



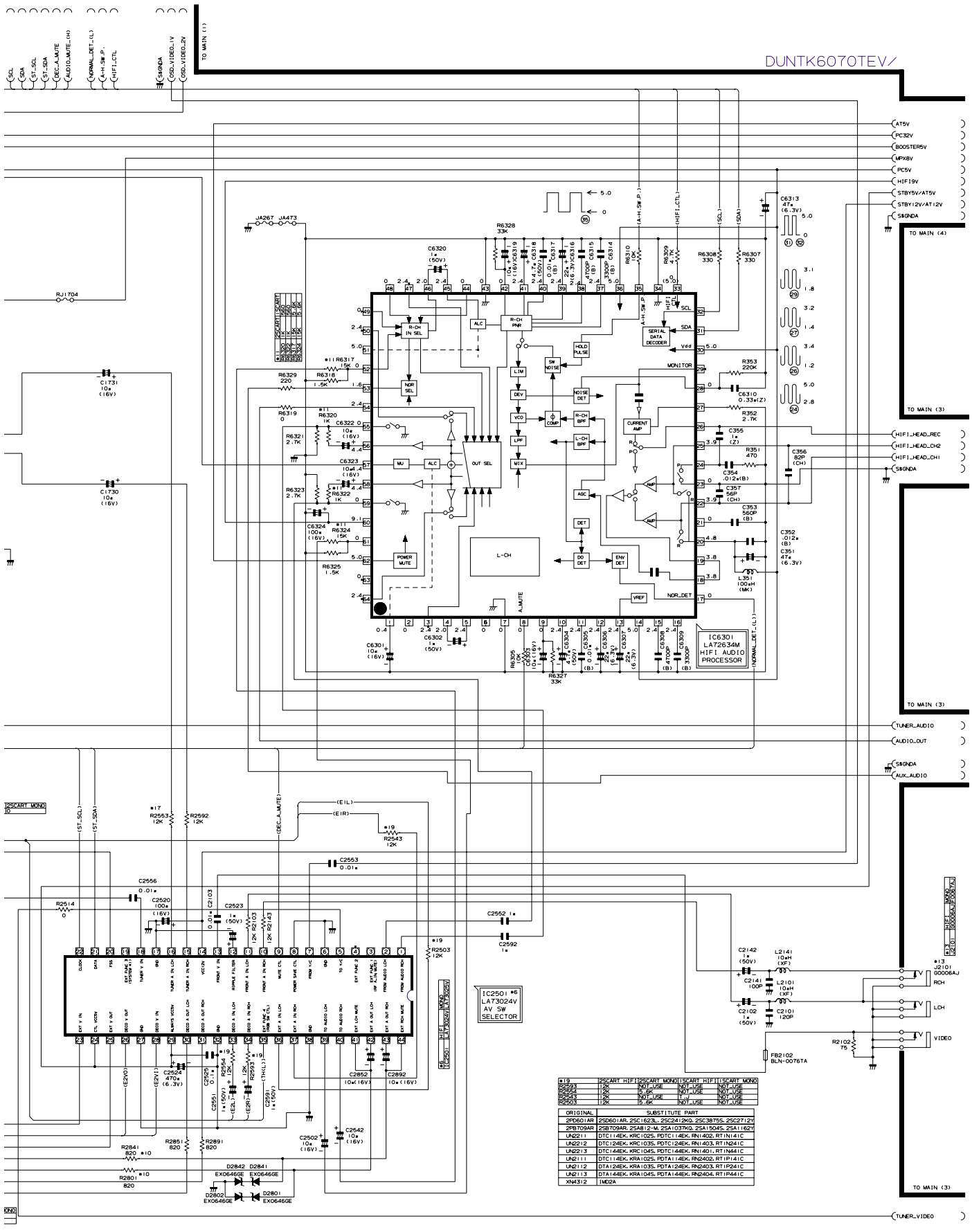
MAIN CIRCUIT (1) /HAUPTSCHALTUNG (1)



MAIN CIRCUIT (2) /HAUPTSCHALTUNG (2)



MAIN CIRCUIT (2) /HAUPTSCHALTUNG (2)



*19	2SCART HIFI	2SCART MONO	1SCART HIFI	1SCART MONO
R2593	12K	NOT USE	NOT USE	NOT USE
R2594	12K	5.6K	NOT USE	NOT USE
R2543	12K	NOT USE	1 W	NOT USE
R2503	12K	5.6K	NOT USE	NOT USE

ORIGINAL	SUBSTITUTE PART
2PD601AR	2SD601AR, 2SC1623L, 2SC2412KQ, 2SC3875S, 2SC2712Y
2PB709AR	2SB709AR, 2SA812-M, 2SA1037KQ, 2SA1504S, 2SA1162Y
UN2211	DTC114EK, KRC102S, PDTC114EK, RN1402, RT1N141C
UN2212	DTC124EK, KRC103S, PDTC124EK, RN1403, RT1N241C
UN2213	DTC144EK, KRC104S, PDTC144EK, RN1401, RT1N441C
UN2111	DTC114EK, KRA102S, PDTA114EK, RN2402, RT1P141C
UN2112	DTA124EK, KRA103S, PDTA124EK, RN2403, RT1P241C
UN2113	DTA144EK, KRA104S, PDTA144EK, RN2404, RT1P441C
XN4312	1MD2A

10	11	12	13	14	15	16	17	18	19

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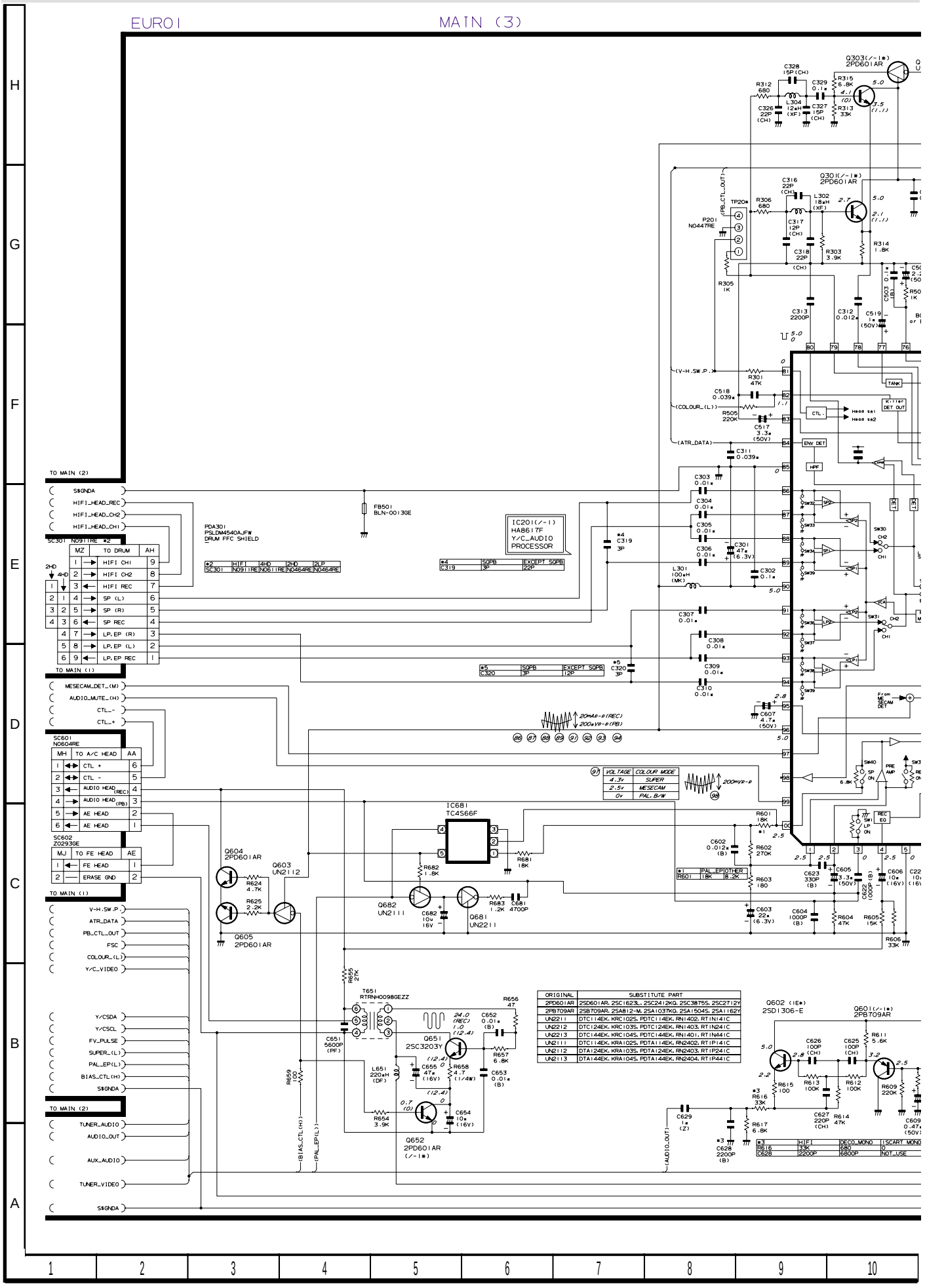
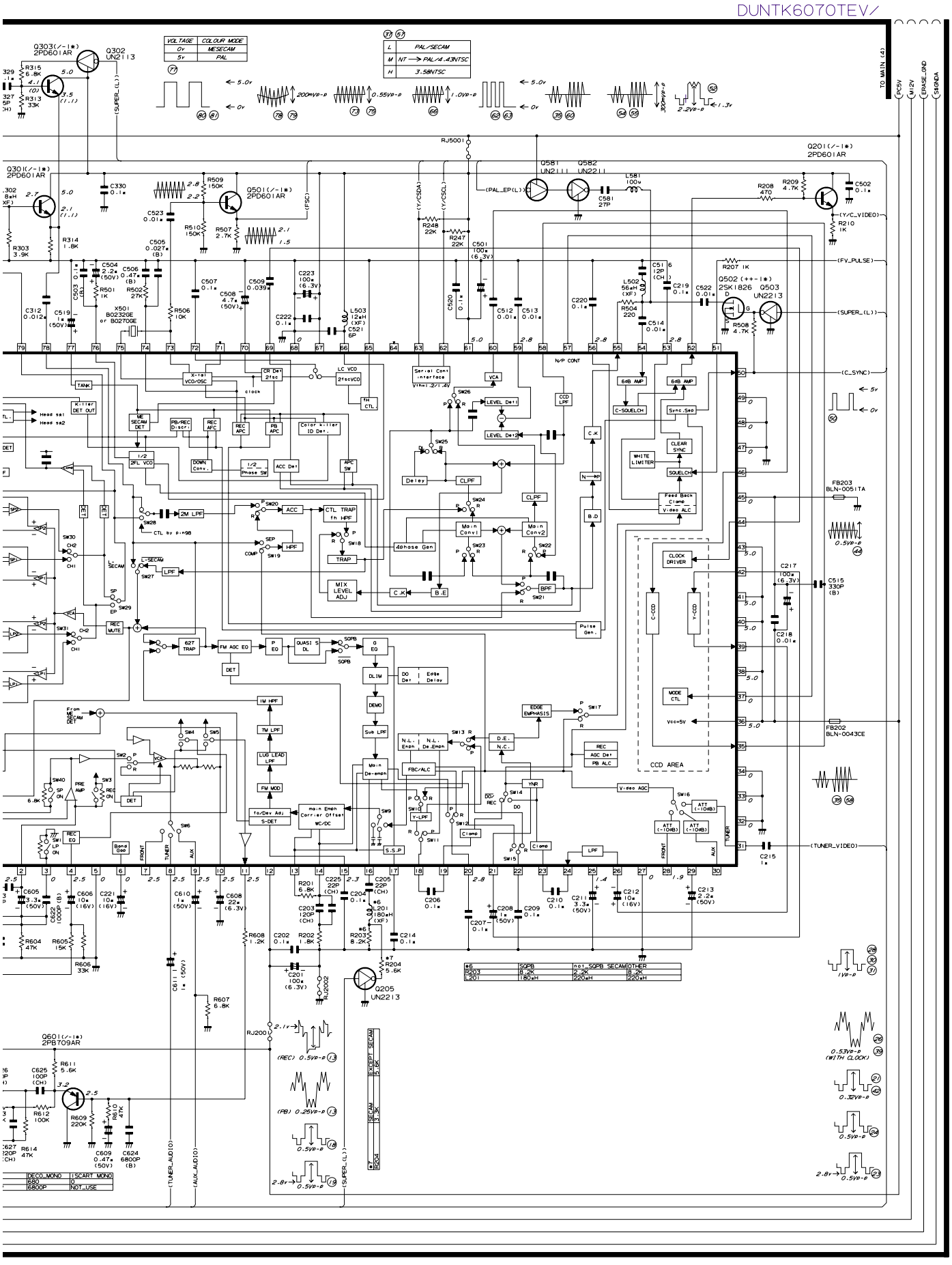
MAIN CIRCUIT (3) /HAUPTSCHALTUNG (3)



MAIN CIRCUIT (3) /HAUPTSCHALTUNG (3)

DUNTK6070TEV/



10	11	12	13	14	15	16	17	18	19

SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE:
BE SURE TO USE GENUINE PARTS FOR SECURING THE SAFETY AND RELIABILITY OF THE SET.

PARTS MARKED WITH"⚠" AND PARTS SHADED (IN GREY) ARE ESPECIALLY IMPORTANT FOR MAINTAINING THE SAFETY AND PROTECTING ABILITY OF THE SET.
BE SURE TO REPLACE THEM WITH PARTS OF SPECIFIED PART NUMBER

SAFETY NOTES:
1. DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACING PARTS.
2. SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.

NOTE:
1. The unit of resistance "ohm" is omitted (K: 1000 ohms M: 1 Meg ohm).
2. All resistors are 1/8 watt, unless otherwise noted.
3. The unit capacitance "F" is omitted (μ= μF, p= μ μF).
4. The values in parentheses are the ones in the PB mode: the values without parentheses are the ones in the REC mode.

VOLTAGE MEASUREMENT CONDITIONS:
1. DC voltages are measured between points indicated and chassis ground by VTVM, with AC230V/50Hz supplied to unit and all controls are set to normal viewing picture unless otherwise noted.
2. Voltages are measured with 10000μVB & W or colour noted.

WAVEFORM MEASUREMENT CONDITIONS:
10000dBμV 87.5 percent modulated colour bar signal is fed into tuner.

CAUTION:
This circuit diagram is original one. Therefore there may be a slight difference from yours

H G F E D C B A
1 2 3 4 5 6 7 8 9 10

mh78sm A4 5-14 12 3/9/01, 7:38 am

SHALTPLAN

WICHTIGER SICHEREITSHINWEISE:
IM INTERSSE DER SCHERHEIT UND ZUVERLAS-
SIGKEIT SOLFTEN DIE ORIGINAL TEILE IMMER VERWENDET WERDEN.

DIE MIT " ⚠ " BEZEICHNETEN BZW. (IM GRAU)
GESCHATTETEN TEILE SIND BESONDERS WICHTING SOWHOL FÜR DIE
SIECHERHEIT ALS AUCH FÜR DIE SICHERE LEISTUNG.
BEIM AUSTAUSCH BITTE IMMER DIE TEILE, WIE VON DEN NUMMERN
VORESCHRIEBEN, VERWENDEN.

SICHERHEITSHINWEISE:

1. VOR AUSWECHSELN VON TEILEN DEN NETZKABELSTECKER AUS DER NETZSTECKDOSE ZIEHEN.
2. KÜHLKÖRPER VON HALBLEITERN SOLLTEN BEI BETRIEB DES CHASSIS ALS MÖGLICHE URSACHEN ELEKTRISCHER SCHALÄGE BETRACHTET WERDEN.

ANMERKUNGEN:

1. Die Wiederstandseinheit "ohm" wird weggelassen
   (K: = 1000 Ohms M: = 1 Mega ohm).
2. Alle Wiederstände haden 1/8 Watt, sofern nicht anders angegeben.
3. Die Kapazitätseinheit "F" wird weggelassen (μ = μF, p = pF).
4. Die in Klammern gesetzten Werte werden in der Wiedergabe-Betriebsart erhalten: die
   Werte ohne Klammern werden in der Aufnahme-Betriesart erhalten.

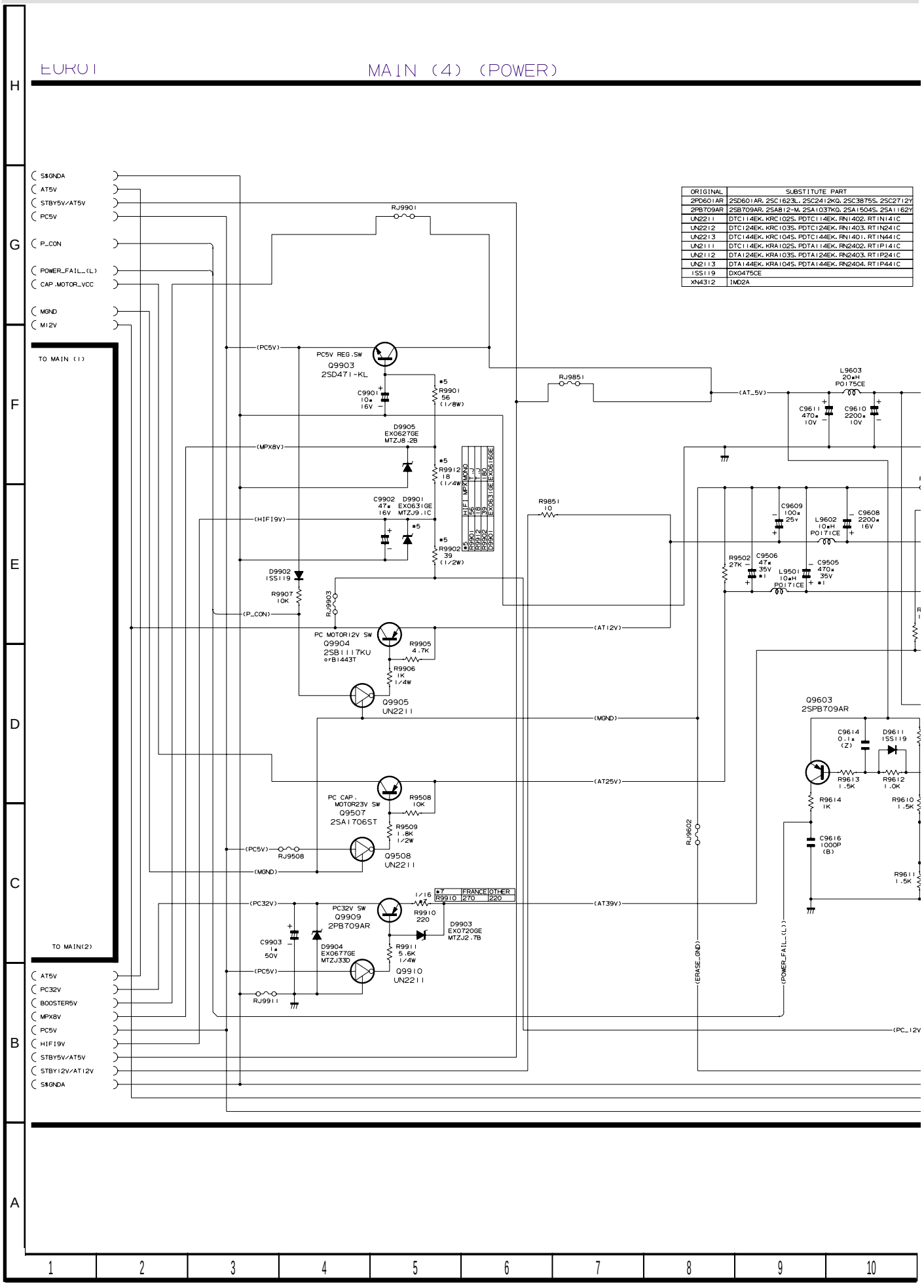
SPANNUNGSMESSBEDINGUNGEN:

1. Gleichspannungen werden zwischen den angegeben Punken und der Chassis mit Hilfe eines Röhrenvoltmeters gemessen, wobei dem Gerät 230 V Netzstrom (50Hz) zugeführt wird und alle Bedienungselemente auf ein normales Bild eingestellt sind, sofern nicht anders angegeben.
2. Spannungen werden mit einem 10000μV Schwarzweißoder Farbsignal gemessen.

WELLENFORMMESSBEDINGUNGEN:
Ein um 87.5% modulierted 10000dBμV-Farbbalken-signal wird dem Tuner zugeleitet.

ANMERKUNG:
Dieses Leitungsschema ist das originale. Daher kann es von ihrem Leiungsschema etwas verschieden sein.

MAIN CIRCUIT (4) /HAUPTSCHALTUNG (4)

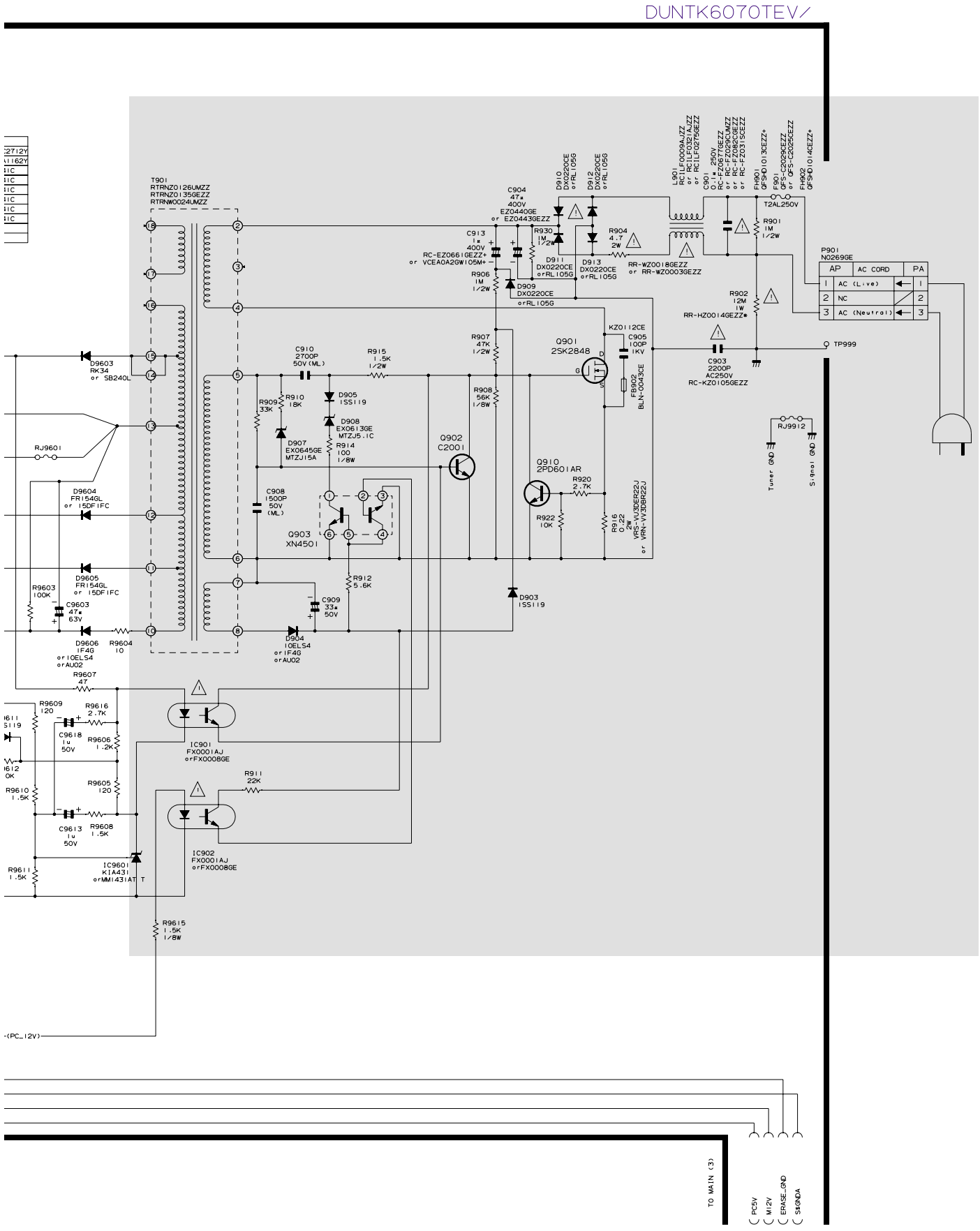


ORIGINAL	SUBSTITUTE PART
2PD601AR	2SD601AR. 2SC1623L. 2SC2412K0. 2SC3875S. 2SC2712Y
2PB709AR	2SB709AR. 2SA812-M. 2SA1037K0. 2SA1504S. 2SA1162Y
UN2211	DTC114EK. KRC102S. PDTC114EK. RN1402. RT1N141C
UN2212	DTC124EK. KRC103S. PDTC124EK. RN1403. RT1N241C
UN2213	DTC144EK. KRC104S. PDTC144EK. RN1401. RT1N441C
UN2111	DTC114EK. KRA102S. PDTA114EK. RN2402. RT1P141C
UN2112	DTA124EK. KRA103S. PDTA124EK. RN2403. RT1P241C
UN2113	DTA144EK. KRA104S. PDTA144EK. RN2404. RT1P441C
1SS119	DX0475CE
XN4312	IMD2A

HIFI	MPX	MONO
1.8	3.3	7.80
1.8	3.9	7.80
1.8	3.9	7.80
EX0631GE	EX0631GE	EX0616GE
D9901	D9901	D9901
D9902	D9902	D9902
R9902	R9902	R9902
R9912	R9912	R9912
*5	*5	*5

13

MAIN CIRCUIT (4) /HAUPTSCHALTUNG (4)



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REPLACEMENT PARTS LIST/ERSATZEILLISTE

PARTS REPLACEMENT

Parts marked with "⚠" are important for maintaining the saftey of the set. Replace these parts with only those specified.

"HOW TO ORDER REPLACEMENT PARTS"

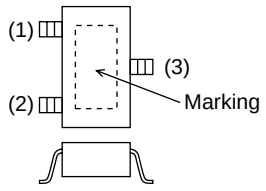
Contact your nearest SHARP Parts Distributor.

To have your order filled prompty and correctly, please supply the following information:

1. MODEL NUMBER **2. REF NO**
3. PART CODE **4. DESCRIPTION**
5. PRICE CODE

MARK ★: SPARE PARTS-DELIVERY SECTION

HOW TO IDENTIFY CHIP TRANSISTORS AND DIODES BY ITS MARKING



(1) Base/Input
(2) Emitter/Ground
(3) Collector/Output

Fig. 1

PACKAGE	MARKING	PARTS CODE	TYPE	MARKING	PARTS CODE	TYPE
FIG 1.	6A	VSUN2111///-1*	PNP	14	VSDTA114EK/-1*	PNP
FIG 1.	6B	VSUN2112///-1*	PNP	15	VSDTA124EK/-1*	PNP
FIG 1.	6C	VSUN2113///-1*	PNP	16	VSDTA144EK/-1*	PNP
FIG 1.	8A	VSUN2211///-1*	NPN	24	VSDTC114EK/-1*	NPN
FIG 1.	8B	VSUN2212///-1*	NPN	25	VSDTC124EK/-1*	NPN
FIG 1.	8C	VSUN2213///-1*	NPN	26	VSDTC144EK/-1*	NPN
FIG 1.	FQ	VS2A1037KQ-1		BQ	VS2SC2412KQ-1	

PRINTED WIRING BOARD ASSEMBLIES *(NOT REPLACEMENT ITEM)*

DESCRIPTION	PART CODE	REF NO	78SM(SN)	78GM(S)	77SM(SS)	771SM(S)	771SM(SN)	770SM(S)	CODE	★
MAIN UNIT	DUNTK6070TEV7	-	N/A	1	N/A	N/A	N/A	N/A	-	-
MAIN UNIT	DUNTK6070TEV8	-	1	N/A	N/A	N/A	N/A	N/A	-	-
MAIN UNIT	DUNTK6070TEV9	-	N/A	N/A	1	1	1	N/A	-	-
MAIN UNIT	DUNTK6070TEVA	-	N/A	N/A	N/A	N/A	N/A	1	-	-

DUNTK6070TEV8 (VC-MH78SM(SS/SN), DUNTK6070TEV7 (VC-MH78GM(S)

DUNTK6070TEV9 (VC-MH77SM(SS/S)VC-MH771SM(SN))DUNTK6070TEVA (VC-MH770SM(S)

INTERGRATED CIRCUITS

DESCRIPTION	PART CODE	REF NO	78SM(SN)	78GM(S)	77SM(SS)	771SM(S)	771SM(SN)	770SM(S)	CODE	★
MAIN I.C.	RH-IX1669GEZZ	IC701	1	1	N/A	N/A	N/A	N/A	AE	U
MAIN I.C	RH-IX1673GEZZ	IC701	N/A	N/A	1	1	1	1	AE	U
8K EPROM	VHIBR24C08F-1	IC705	1	1	N/A	N/A	N/A	N/A	AF	U
2K EPROM	VHIBR24C02F1E	IC705	N/A	N/A	1	1	1	1	AF	U
NICAM/IGR I.C.	VHIMSP3417G-1	IC1701	1	N/A	1	1	1	N/A	AX	U
VPS/PDC I.C.	VHILC74793J1E	IC1801	1	1	N/A	N/A	N/A	N/A	AS	U
SAT I.C.	RH-IX1602UMZZ	IC8051	N/A	N/A	N/A	N/A	N/A	N/A	BA	U
IGR I.C.	VHIMSP3407G-1	IC1701	N/A	1	N/A	N/A	N/A	1	AX	U

TRANSISTORS

DESCRIPTION	PART CODE	REF NO	78SM(SN)	78GM(S)	77SM(SS)	771SM(S)	771SM(SN)	770SM(S)	CODE	★
TRANS	VSUN2213///-1	Q205	1	1	N/A	N/A	N/A	N/A	AA	U
TRANS	VS2PD601AR/-1	Q301	1	1	N/A	N/A	N/A	N/A	AA	U
TRANS	VSUN2113///-1	Q302	1	1	N/A	N/A	N/A	N/A	AA	U
TRANS	VS2PD601AR/-1	Q303	1	1	N/A	N/A	N/A	N/A	AA	U
TRANS	VS2SK1826++-1	Q502	1	1	N/A	N/A	N/A	N/A	AB	U
TRANS	VSUN2213///-1	Q503	1	1	N/A	N/A	N/A	N/A	AA	U
TRANS	VS2PD601AR/-1	Q711	1	1	N/A	N/A	N/A	N/A	AA	U
TRANS	VS2PD601AR/-1	Q712	1	1	N/A	N/A	N/A	N/A	AA	U
TRANS	VS2PD601AR/-1	Q872	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
TRANS	VSUN2211///-1	Q1861	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
TRANS	VS2PD601AR/-1	Q1862	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
TRANS	VS2PD601AR/-1	Q1865	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
TRANS	VS2SD468-C/-1	Q8051	N/A	N/A	N/A	N/A	N/A	N/A	AD	U
TRANS	VS2SA1706ST1E	Q9507	1	1	N/A	N/A	N/A	N/A	AG	U
TRANS	VSUN2211///-1	Q9508	1	1	N/A	N/A	N/A	N/A	AA	U
TRANS	VS2SB1117KU1E	Q9904	1	1	N/A	N/A	N/A	N/A	AE	U
TRANS	VS2PB701AR/-1	Q9951	N/A	N/A	1	1	1	1	AA	U

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REPLACEMENT PARTS LIST/ERSATZEILLISTE

DIODES

DESCRIPTION	PART CODE	REF NO	78SM(SN)	78GM(S)	77SM(SS)	771SM(S)	771SM(SN)	770SM(S)	CODE	★
DIODE	VHD1SS119//-1	D702	1	1	N/A	N/A	N/A	N/A	AB	U
DIODE	VHD1SS119//-1	D1861	N/A	N/A	N/A	N/A	N/A	N/A	AB	U
DIODE	RH-EX0646GEZZ	D2902	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
DIODE	VHDFR154GL+1E	D9605	1	1	N/A	N/A	N/A	N/A	AC	U

COILS AND TRANSFORMERS

DESCRIPTION	PART CODE	REF NO	78SM(SN)	78GM(S)	77SM(SS)	771SM(S)	771SM(SN)	770SM(S)	CODE	★
PEAKING 180UH 5%	VP-XF181J0000	L201	1	1	N/A	N/A	N/A	N/A	AB	U
PEAKING 220UH 5%	VP-XF221J0000	L201	N/A	N/A	1	1	1	1	AA	U
PEAKING 220UH 10%	VP-DF221K0000	L8051	N/A	N/A	N/A	N/A	N/A	N/A	AB	U
COIL	RCILP0171CEZZ	L9501	1	1	N/A	N/A	N/A	N/A	AA	U
FILTER	RFILC0198GEZZ	FL8051	N/A	N/A	N/A	N/A	N/A	N/A	AB	U
PEAKING 12UF	VP-XF120J0000	L304	1	1	N/A	N/A	N/A	N/A	AA	U

CAPACITORS

DESCRIPTION	PART CODE	REF NO	78SM(SN)	78GM(S)	77SM(SS)	771SM(S)	771SM(SN)	770SM(S)	CODE	★
CERAMIC 3.0P 50V	VCCCCY1HH3R0C	C319	1	1	N/A	N/A	N/A	N/A	AA	U
CERAMIC 22P 50V	VCCCCY1HH220J	C319	N/A	N/A	1	1	1	1	AA	U
CERAMIC 3.0P 50V	VCCCCY1HH3R0C	C320	1	1	N/A	N/A	N/A	N/A	AA	U
CERAMIC 12P 50V	VCCCCY1HH120J	C320	N/A	N/A	1	1	1	1	AA	U
CERAMIC 22P 50V	VCCCCY1HH220J	C326	1	1	N/A	N/A	N/A	N/A	AA	U
CERAMIC 15P 50V	VCCCCY1HH150J	C327	1	1	N/A	N/A	N/A	N/A	AA	U
CERAMIC 15P 50V	VCCCCY1HH150J	C328	1	1	N/A	N/A	N/A	N/A	AA	U
CERAMIC 0.1P 25V	VCKYCY1EF104Z	C329	1	1	N/A	N/A	N/A	N/A	AA	U
CERAMIC 0.01 50V	VCKYCY1HF103Z	C522	1	1	N/A	N/A	N/A	N/A	AA	U
CAPACITOR	RC-EZ0426GEZZ	C713	1	1	N/A	N/A	N/A	N/A	AH	U
FILM CAP 5600P 50V	VCQYTA1HM563J	C1803	1	1	N/A	N/A	N/A	N/A	AA	U
ELECTROLYTIC 4.7UF 50V	VCEA9M1HW475M	C1804	1	1	N/A	N/A	N/A	N/A	AA	U
CERAMIC 1.0P 16V	VCKYD41CF105Z	C1805	1	1	N/A	N/A	N/A	N/A	AB	U
ELECTROLYTIC 1UF 50V	VCEA9M1HW105M	C1806	1	1	N/A	N/A	N/A	N/A	AB	U
CERAMIC 0.01P 16V	VCKYD41CY103N	C1807	1	1	N/A	N/A	N/A	N/A	AA	U
ELECTROLYTIC 47UF 6.3V	VCEA9M0JW476M	C1811	1	1	N/A	N/A	N/A	N/A	AB	U
CERAMIC 0.01P 16V	VCKYD41CY103N	C1812	1	1	N/A	N/A	N/A	N/A	AA	U
CERAMIC 221P 50V	VCKYD41HB221K	C1861	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
CERAMIC 221P 50V	VCKYD41HB221K	C1862	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
CERAMIC 22UF 16V	VCEA0A1CW227M	C8051	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
CERAMIC 0.01P 16V	VCKYD41CY103N	C8052	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
CERAMIC 0.01P 16V	VCKYD41CY103N	C8053	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
ELECTROLYTIC 47UF 6.3V	VCEA9M0JW476M	C8054	N/A	N/A	N/A	N/A	N/A	N/A	AB	U
CERAMIC 0.01 50V	VCKYCY1HF103Z	C8055	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
ELECTROLYTIC 470UF 35V	VCEA0A1VW477M	C9505	1	1	N/A	N/A	N/A	N/A	AB	U
ELECTROLYTIC 47UF 35V	VCEA0A1VW476M	C9506	1	1	N/A	N/A	N/A	N/A	AA	U

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REPLACEMENT PARTS LIST/ERSATZEILLISTE

RESISTORS

DESCRIPTION	PART CODE	REF NO	78SM(SN)	78GM(S)	77SM(SS)	771SM(S)	771SM(SN)	770SM(S)	CODE	★
METAL 8.2K 1/16W	VRS-CY1JF822J	R203	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 8.2K 1/16W	VRS-CY1JF332J	R203	N/A	N/A	1	1	1	1	AA	U
CARBON 5.6K 1/8W	VRD-RA2BE562J	R204	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 680K 1/16W	VRS-CY1JF681J	R312	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 33K 1/16W	VRS-CY1JF333J	R313	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 1.8K 1/16W	VRS-CY1JF182J	R314	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 6.8K 1/16W	VRS-CY1JF682J	R315	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 47K 1/16W	VRS-CY1JF472J	R508	1	1	N/A	N/A	N/A	N/A	AA	U
CARBON 68K 1/4W	VRD-RA2EE680J	R709	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 1.0K 1/16W	VRS-CY1JF102J	R721	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 1.0K 1/16W	VRS-CY1JF102J	R737	1	1	N/A	N/A	N/A	N/A	AA	U
CARBON 10K 1/8W	VRD-RA2BE102J	R871	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
CARBON 22K 1/8W	VRD-RA2BE121J	R872	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
METAL 10K 1/16W	VRS-CY1JF103J	R873	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
METAL 10K 1/16W	VRS-CY1JF103J	R1801	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 2.7K 1/16W	VRS-CY1JF272J	R1807	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 5.6K 1/16W	VRS-CY1JF562J	R1808	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 10K 1/16W	VRS-CY1JF103J	R1810	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 100K 1/16W	VRS-CY1JF104J	R1862	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
METAL 220K 1/16W	VRS-CY1JF221J	R1863	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
METAL 47K 1/16W	VRS-CY1JF473J	R1864	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
METAL 27K 1/16W	VRS-CY1JF273J	R1865	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
METAL 12K 1/4W	VRG-SC2EB120J	R8051	N/A	N/A	N/A	N/A	N/A	N/A	AB	U
CARBON 330K 1/4W	VRD-RA2BE331J	R8052	N/A	N/A	N/A	N/A	N/A	N/A	AA	U
METAL 27K 1/16W	VRS-CY1JF273J	R9502	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 10K 1/16W	VRS-CY1JF103J	R9508	1	1	N/A	N/A	N/A	N/A	AA	U
CARBON 1.8K 1/2W	VRD-RM2HD182J	R9509	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 47K 1/16W	VRS-CY1JF472J	R9905	1	1	N/A	N/A	N/A	N/A	AA	U
CARBON 10K 1/4W	VRD-RA2EE102J	R9906	1	1	N/A	N/A	N/A	N/A	AA	U
METAL 10K 1/16W	VRS-CY1JF103J	R9952	N/A	N/A	1	1	1	1	AA	U
CARBON 10K 1/8W	VRD-RA2BE102J	R9953	N/A	N/A	1	1	1	1	AA	U

LCD PWB (DUNTK6072TEV2)(NOT A REPLACENENT ITEM)

DESCRIPTION	PART CODE	REF NO	78SM(SN)	78GM(S)	77SM(SS)	771SM(S)	771SM(SN)	770SM(S)	CODE	★
DIODE	RH-PX0270GEZZ	D8051	N/A	N/A	N/A	N/A	N/A	N/A	AC	U
DIODE	RH-PX0270GEZZ	D8052	N/A	N/A	N/A	N/A	N/A	N/A	AC	U
5 PIN SOCKET	QSOCZ0509REZZ	SC8001	1	1	1	1	1	1	AB	U
6 PIN SOCKET	QSOCZ0609REZZ	SC8001	N/A	N/A	N/A	N/A	N/A	N/A	AB	U

OPERATE PWB (DUNTK6071TEV2 / DUNTK6071TEV3)(NOT A REPLACENENT ITEM)

DESCRIPTION	PART CODE	REF NO	78SM(SN)	78GM(S)	77SM(SS)	771SM(S)	771SM(SN)	770SM(S)	CODE	★
SWITCH	QSW-K0097GEZZ	SW881	1	1	1	1	1	1	AB	U
SWITCH	QSW-K0097GEZZ	SW882	1	1	1	1	1	1	AB	U
SWITCH	QSW-K0097GEZZ	SW883	N/A	N/A	1	1	1	1	AB	U
SWITCH	QSW-K0097GEZZ	SW884	1	1	1	1	1	1	AB	U
SWITCH	QSW-K0097GEZZ	SW885	1	1	1	1	1	1	AB	U
SWITCH	QSW-K0097GEZZ	SW886	1	1	1	1	1	1	AB	U
SWITCH	QSW-K0097GEZZ	SW887	N/A	N/A	1	1	1	1	AB	U
SWITCH	QSW-K0097GEZZ	SW889	N/A	N/A	N/A	N/A	N/A	N/A	AB	U
SWITCH	QSW-K0097GEZZ	SW890	N/A	N/A	N/A	N/A	N/A	N/A	AB	U
SWITCH	QSW-K0097GEZZ	SW891	N/A	N/A	N/A	N/A	N/A	N/A	AB	U
SWITCH	QSW-K0097GEZZ	SW892	N/A	N/A	N/A	N/A	N/A	N/A	AB	U
SWITCH	QSW-K0097GEZZ	SW893	N/A	N/A	N/A	N/A	N/A	N/A	AB	U
SWITCH	QSW-K0097GEZZ	SW894	N/A	N/A	N/A	N/A	N/A	N/A	AB	U

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REPLACEMENT PARTS LIST/ERSATZEILLISTE

FRONT PANEL PARTS

DESCRIPTION	PART CODE	REF NO	78SM(SN)	78GM(S)	77SM(SS)	771SM(S)	771SM(SN)	770SM(S)	CODE	★
FRONT PANEL ASSY	CPNLC2935TEV2	502	1	N/A	N/A	N/A	N/A	N/A	AX	U
FRONT PANEL ASSY	CPNLC2935TEV1	502	N/A	1	N/A	N/A	N/A	N/A	AX	U
FRONT PANEL ASSY	CPNLC2936TEV1	502	N/A	N/A	1	N/A	N/A	N/A	AX	U
FRONT PANEL	HPNLC2935UMSA	502-1	1	1	N/A	N/A	N/A	N/A	AN	U
FRONT PANEL	HPNLC2936UMSA	502-1	N/A	N/A	1	N/A	N/A	N/A	AN	U
PLAY BUTTON	JBTN-2961UMSE	502-2	1	1	1	N/A	N/A	N/A	AC	U
CASSETTE FLAP	HEDCQ2397UMSA	502-3	1	N/A	N/A	N/A	N/A	N/A	AG	U
CASSETTE FLAP	HDECQ2390UMSA	502-3	N/A	1	N/A	N/A	N/A	N/A	AG	U
CASSETTE FLAP	HDECQ2391UMSA	502-3	N/A	N/A	1	N/A	N/A	N/A	AG	U
LCD IND PLATE	HINDP2224AJSA	502-4	1	1	1	N/A	N/A	N/A	AD	U
REC BUTTON	JBTN-3126UMSB	502-5	1	1	1	N/A	N/A	N/A	AC	U
MENU/SET BUTTON	JBTN-3127UMSB	502-6	1	1	1	N/A	N/A	N/A	AC	U
CASSETTE SPRING	MSPRD0103AJFJ	502-7	1	1	1	N/A	N/A	N/A	AD	U
POWER BUTTON	JBTN-3124UMSB	502-8	1	1	1	N/A	N/A	N/A	AC	U
CH BUTTON	JBTN-3125UMSB	502-9	1	1	1	N/A	N/A	N/A	AC	U
FRONT PANEL ASSY	CPNLC2937TEV1	501	N/A	N/A	N/A	1	1	N/A	AX	U
FRONT PANEL ASSY	CPNLC2938TEV1	501	N/A	N/A	N/A	N/A	N/A	1	AX	U
FRONT PANEL	HPNLC2937UMSA	501-1	N/A	N/A	N/A	1	1	N/A	AN	U
FRONT PANEL	HPNLC2938UMSA	501-1	N/A	N/A	N/A	N/A	N/A	1	AN	U
PLAY BUTTON	JBTN-2961UMSE	501-2	N/A	N/A	N/A	1	1	1	AC	U
CASSETTE FLAP	HEDCQ2392UMSA	501-3	N/A	N/A	N/A	1	1	1	AG	U
LCD IND PLATE	HINDP2213AJSA	501-4	N/A	N/A	N/A	1	1	1	AD	U
CH/REC BUTTON	JBTN-3051UMSC	501-5	N/A	N/A	N/A	1	1	1	AM	U
MENU/SET BUTTON	JBTN-3049UMSC	501-6	N/A	N/A	N/A	1	1	1	AC	U
CASSETTE SPRING	MSPRD0103AJFJ	501-7	N/A	N/A	N/A	1	1	1	AD	U
STANDBY BUTTON	JBTN-3050UMSC	501-8	N/A	N/A	N/A	1	1	1	AM	U

SUPPLIED ACCESSORIES

DESCRIPTION	PART CODE	REF NO	78SM(SN)	78GM(S)	77SM(SS)	771SM(S)	771SM(SN)	770SM(S)	CODE	★
REMOTE CONTROL	RRMCG1255AJSB	-	1	1	N/A	N/A	N/A	N/A	BC	U
REMOTE CONTROL	RRMCG0247AJSB	-	N/A	N/A	1	1	1	1	AQ	U
COAXIAL CABLE	QCNW-7870UMZZ	-	1	1	1	1	1	1	AH	U
OPERATION MANUAL	TINS-4003UMZZ	-	1	N/A	N/A	N/A	N/A	N/A	AG	U
OPERATION MANUAL	TINS-3995UMZZ	-	N/A	1	N/A	N/A	N/A	N/A	AM	U
OPERATION MANUAL	TINS-3999UMZZ	-	N/A	N/A	1	1	1	N/A	AG	U
OPERATION MANUAL	TINS-4000UMZZ	-	N/A	N/A	N/A	1	N/A	N/A	AG	U
OPERATION MANUAL	TINS-4001UMZZ	-	N/A	N/A	N/A	N/A	N/A	1	AG	U

ACCESSORIES (NOT A REPLACEABLE ITEM.)

DESCRIPTION	PART CODE	REF NO	78SM(SN)	78GM(S)	77SM(SS)	771SM(S)	771SM(SN)	770SM(S)	CODE	★
BUFFER MATERIAL	SPAKX1135UMZZ	-	1	1	1	1	1	1	-	-
BUFFER MATERIAL	SPAKX1134UMZZ	-	1	1	1	1	1	1	-	-
PACKING CASE	SPAKC4708UMZZ	-	1	1	1	1	1	1	-	-
PLUG PROTECTOR	SPAKF0246UMZZ	-	1	1	1	1	1	1	-	-

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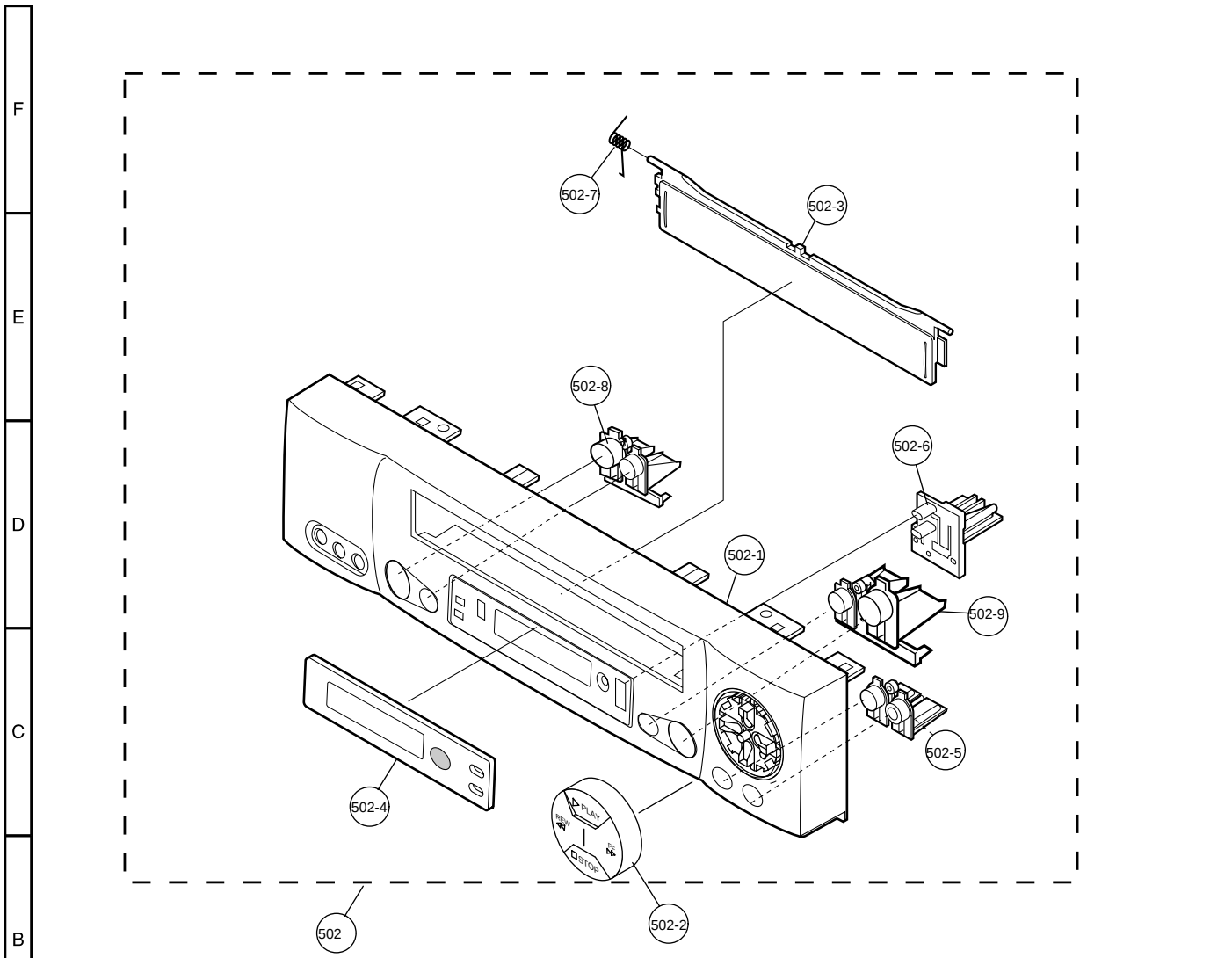
FRONT PANEL PARVC-MH78SM(SN)78GM(S)77SM(SS)



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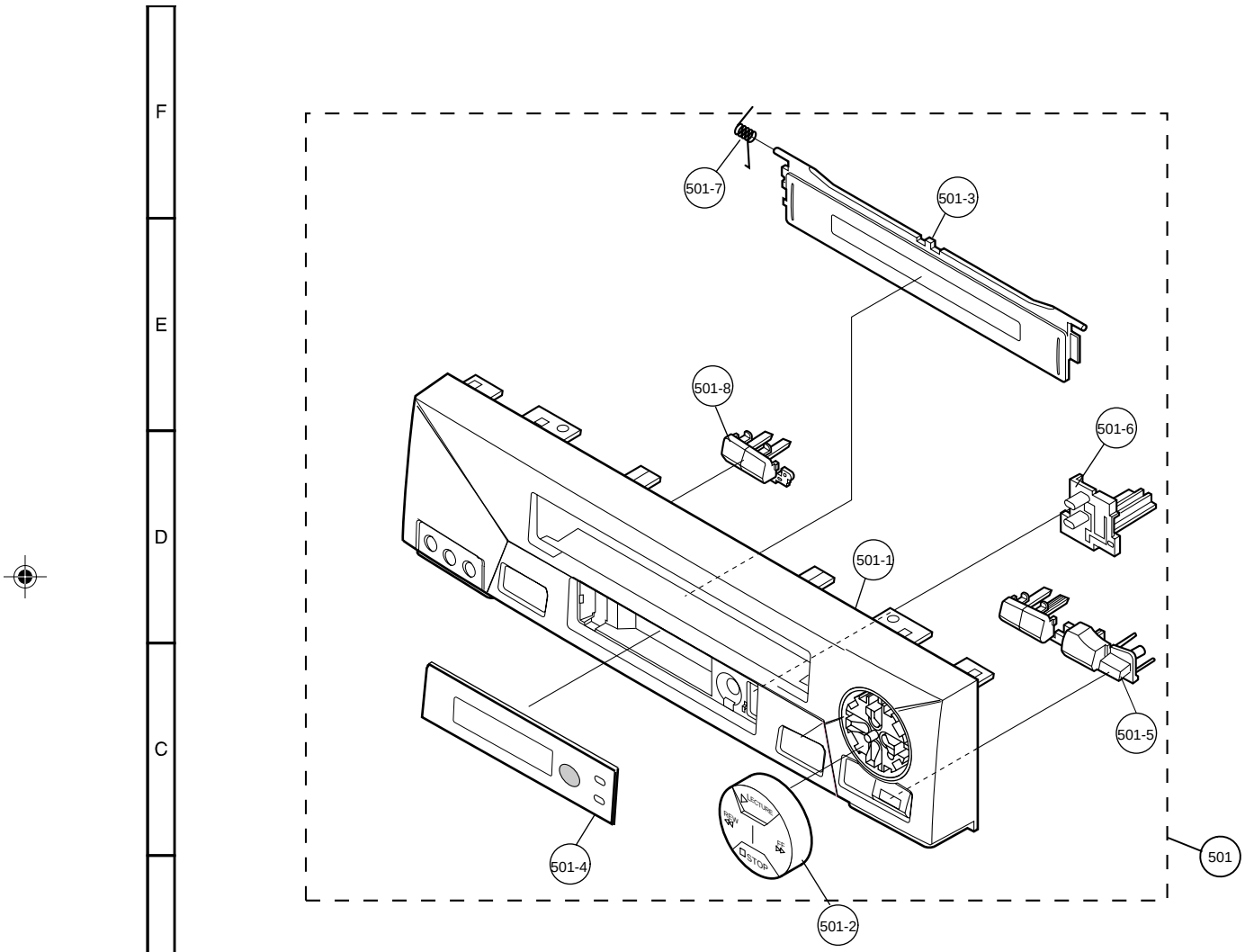
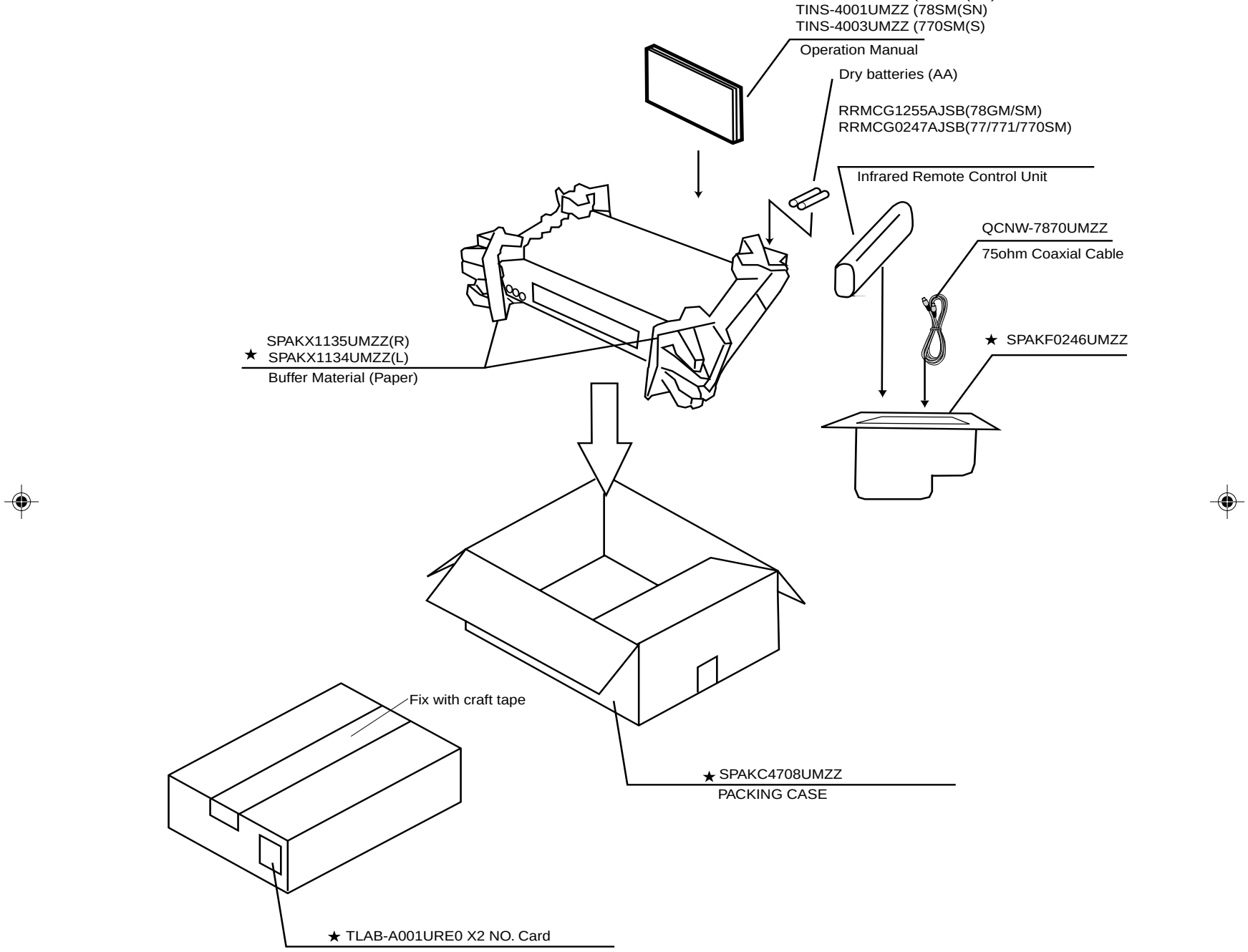
FRONT PANEL PARTS/FRONTTAFEL TEILE(VC-MH770/771SM(SS)



vc-mh78sm etc15-22 20 31/8/01, 2:44 pm

PACKING OF THE SET/ VERPACKUNG DES GERÄTES

TINS-3995UMZZ (78GM(S)
TINS-3999UMZZ (771SM(S)/77SM(SS)
TINS-4000UMZZ (771SM(SN)
TINS-4001UMZZ (78SM(SN)
TINS-4003UMZZ (770SM(S)



MARK ★ NOT REPLACEMENT ITEM

vc-mh78sm etc15-22 21 31/8/01, 2:44 pm

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